

CLAIMS:

1. A resonant converter (1) which has multiple outputs (7a, 7b) and contains a transformer (4) with a primary winding (5) and at least two secondary windings (6a, 6b) of different winding directions.

5 2. A resonant converter as claimed in claim 1, characterized in that the transformer (4) has a first group of secondary windings with one or more secondary windings (6a) having a first winding direction and a second group of secondary windings with one or more secondary windings (6b) having a second winding direction, at least two of the secondary windings (6a, 6b) being electrically separated from one another.

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3. A resonant converter as claimed in claim 1, characterized in that the transformer (4) has a first group of secondary windings with one or more secondary windings (6a) having a first winding direction and a second group of secondary windings with one or more secondary windings (6b) having a second winding direction, at least two of the secondary windings being electrically connected to one another.

15 4. A resonant converter as claimed in claim 3, characterized in that the secondary windings (6a, 6b) are connected to a ground potential.

20 5. A resonant converter as claimed in one of claims 1 to 4, characterized in that the resonant frequency of the resonant converter is determined by the main inductance (L_h) and the leakage inductances (L_{rp} , L_{rsa} , L_{rsb}) of the transformer (4) and by a capacitive element (3).

25 6. A resonant converter as claimed in one of claims 1 to 5, characterized in that, in addition to the transformer (4) at least one additional inductive element (L_1 , L_{2a} , L_{2b}) is provided which co-determines the resonant frequency of the resonant converter.

7. A resonant converter as claimed in one of claims 1 to 6, characterized in that the converter has switching elements (24, 25) for chopping an input d-c voltage (U_{DC}) and in that a feedback loop having a regulating circuit (8) is provided for regulating the frequency and the duty cycle of the chopped input d-c voltage (U_s).

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8. A resonant converter as claimed in one of claims 1 to 7, characterized in that, the secondary windings (6a, 6b) of the transformer (4) are connected to the converter outputs by way of one diode (Da, Db) and one output filter (Fa, Fb) each.

10 9. A resonant converter as claimed in one of claims 1 to 8, characterized in that different ratios of output voltage to number of turns are provided in respect of associated secondary windings having different winding directions.

10. A resonant converter as claimed in one of claims 1 to 9, characterized in that,
15 where a group of multiple secondary windings having the same winding direction is provided, it is proposed to derive a measuring signal (V_a, V_b) for regulating the converter output voltages from just one of the associated output voltages.